

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A universal serial bus (USB) remote host control driver, comprising:
  - a port for connecting to a network, said remote host control driver configured to
    - communicate with one or more USB device adapters via said port over the network,
    - each of said one or more USB device adapters having a discrete network address;
  - a network protocol stack, said protocol stack for encapsulating USB packets in network packets and for decapsulating USB packets from network packets;
  - a polling routine configured to poll each of possible USB device adapters connected to the network in accordance with a candidate list, and create a master list of only the USB device adapters which responded to the polling; and
  - a memory for storing the master list, the master list containing the discrete network address of each of said one or more USB device adapters and an address(es) and a corresponding identifier of each USB device connected via the corresponding USB device adapter to the remote host control driver.
2. (Currently Amended) The USB remote host control driver of claim 1, wherein said polling routine is further configured to contact each of said USB device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each USB device adapter, and store the identifications of the USB devices in said memory.

3. (Original) The USB host control driver of claim 1, where the network packets are Ethernet packets.

4-5. (Cancelled)

6. (Currently Amended) An Internet gateway, comprising:
- a port for connecting to the Internet; and
- a universal serial bus (USB) remote host control driver, said USB remote host control driver comprising including:
- (a) a port for connecting to a local network, said remote host control driver configured to communicate with one or more USB device adapters via said port over the network, each of said one or more USB device adapters having a discrete network address;
  - (b) a local network protocol stack, said protocol stack for encapsulating USB packets in local network packets and for decapsulating USB packets from local network packets;
  - (c) a polling routine configured to poll each of possible USB device adapters connected to the local network in accordance with a candidate list, and create a master list of only the USB device adapters which responded to the polling; and
  - (d) a memory for storing the master list, the master list containing the discrete network address of each of said USB device adapters which responded to the polling and an identifier of each USB device connected via the corresponding USB device adapter to the remote host control driver.

7. (Original) The Internet gateway of claim 6, where the local network is an Ethernet.

8. (Previously Presented) The Internet gateway of claim 6, further comprising a processor configured to receive unencapsulated USB packets from the protocol stack.
9. (Previously Presented) The Internet gateway of claim 8, further comprising:  
a means for connecting to a local video monitor.
10. (Previously Presented) The Internet gateway of claim 8, further comprising:  
a means for connecting to a local telephone.
11. (Previously Presented) The Internet gateway of claim 8, further comprising:  
a means for connecting to a public television cable.
12. (Previously Presented) The Internet gateway of claim 8, further comprising:  
a means for connecting to a public telephone network.
13. (Withdrawn) A method for providing a signal from a USB device over a local network to a local processor, the method comprising:  
generating a USB packet at the USB device;  
encapsulating the USB packet in one or more network packets;  
transmitting the network packets over the network;  
decapsulating the USB packet from the network packets; and  
providing the USB packet to the processor.
14. (Withdrawn) The method of claim 13, wherein the local network is an Ethernet.

15. (Withdrawn) The method of claim 13, wherein the USB device is a keyboard.
16. (Withdrawn) A method for establishing a connection between a local processor and a USB device over a local network, the method comprising:  
configuring a USB device adapter candidate list, said list including the network address of at least one USB device adapter;  
polling an address on the candidate list, said polling including encapsulating a USB packet in one or more network packets;  
receiving a positive response from a USB device adapter to said polling, said receiving including decapsulating a USB packet from one or more network packets; and  
adding the address and a USB device adapter identifier to a master list.
17. (Withdrawn) The method of claim 16, further comprising:  
polling a port on a USB adapter device on the master list, said polling including encapsulating a USB packet in one or more network packets;  
receiving a positive response from a USB device connected to said port, said receiving including decapsulating a USB packet from one or more network packets; and  
enumerating a USB device in the operating system of the processor.
18. (Withdrawn) A method for providing a signal from a USB device to a processor on the Internet, the method comprising:  
generating a USB packet at the USB device;  
encapsulating the USB packet in one or more local network packets;

transmitting the local network packets over a local network;  
decapsulating the USB packet from the local network packets;  
encapsulating the USB packet in one or more IP packets;  
transmitting the IP packets over the Internet; and  
providing the IP packets to the processor.

19. (Withdrawn) An apparatus for providing a signal from a USB device over a local network to a local processor, comprising:

means for generating a USB packet at the USB device;  
means for encapsulating the USB packet in one or more network packets;  
means for transmitting the network packets over the network;  
means for decapsulating the USB packet from the network packets; and  
means for providing the USB packet to the processor.

20. (Withdrawn) The apparatus of claim 19, wherein the local network is an Ethernet.

21. (Withdrawn) The apparatus of claim 19, wherein the USB device is a keyboard.

22. (Withdrawn) An apparatus for establishing a connection between a local processor and a USB device over a local network, comprising:

means for configuring a USB device adapter candidate list, said list including the network address of at least one USB device adapter;  
means for polling an address on the candidate list, said means for polling including means for encapsulating a USB packet in one or more network packets;

means for receiving a positive response from a USB device adapter to said polling, said

means for receiving including means for decapsulating a USB packet from one or more network packets; and

means for adding the address and a USB device adapter identifier to a master list.

23. (Withdrawn) The apparatus of claim 22, further comprising:

means for polling a port on a USB adapter device on the master list, said means for polling

including means for encapsulating a USB packet in one or more network packets;

means for receiving a positive response from a USB device connected to said port, said

means for receiving including means for decapsulating a USB packet from one or more network packets; and

means for enumerating a USB device in the operating system of the processor.

24. (Withdrawn) An apparatus for providing a signal from a USB device to a processor on the

Internet, comprising:

means for generating a USB packet at the USB device;

means for encapsulating the USB packet in one or more local network packets;

means for transmitting the local network packets over a local network;

means for decapsulating the USB packet from the local network packets;

means for encapsulating the USB packet in one or more IP packets;

means for transmitting the IP packets over the Internet; and

means for providing the IP packets to the processor.

25. (Withdrawn) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for providing a signal from a USB device over a local network to a local processor, the method comprising:
- generating a USB packet at the USB device;
  - encapsulating the USB packet in one or more network packets;
  - transmitting the network packets over the network;
  - decapsulating the USB packet from the network packets; and
  - providing the USB packet to the processor.
26. (Withdrawn) The device of claim 25, wherein the local network is an Ethernet.
27. (Withdrawn) The device of claim 25, wherein the USB device is a keyboard.
28. (Withdrawn) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for establishing a connection between a local processor and a USB device over a local network, the method comprising:
- configuring a USB device adapter candidate list, said list including the network address of at least one USB device adapter;
  - polling an address on the candidate list, said polling including encapsulating a USB packet in one or more network packets;
  - receiving a positive response from a USB device adapter to said polling, said receiving including decapsulating a USB packet from one or more network packets; and
  - adding the address and a USB device adapter identifier to a master list.

29. (Withdrawn) The device of claim 28, wherein the method further comprising:
- polling a port on a USB adapter device on the master list, said polling including
    - encapsulating a USB packet in one or more network packets;
  - receiving a positive response from a USB device connected to said port, said receiving
    - including decapsulating a USB packet from one or more network packets; and
  - enumerating a USB device in the operating system of the processor.
30. (Withdrawn) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for providing a signal from a USB device to a processor on the Internet, the method comprising:
- generating a USB packet at the USB device;
  - encapsulating the USB packet in one or more local network packets;
  - transmitting the local network packets over a local network;
  - decapsulating the USB packet from the local network packets;
  - encapsulating the USB packet in one or more IP packets;
  - transmitting the IP packets over the Internet; and
  - providing the IP packets to the processor.
31. (Currently Amended) A serial data bus remote host control driver, comprising:
- a port for connecting to a network, said remote host control driver configured to
    - communicate with one or more serial data bus device adapters via said port over the network, each of said one or more serial data bus device adapters having a discrete network address;



a network protocol stack, said protocol stack for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets;  
a polling routine configured to poll each of possible device adapters connected to the network in accordance with a candidate list, and create a master list of only the serial data bus device adapters which responded to the polling; and  
a memory for storing the master list, the master list containing the discrete network address of each of said device adapters which responded to the polling and an identifier of each serial data bus device connected via the corresponding serial data bus device adapter to the remote host control driver.

32. (Currently Amended) The serial data bus remote host control driver of claim 31, wherein said polling routine is further configured to contact each of said device adapters which responded to the polling in accordance with the master list, identify each of said serial data bus devices connected to each device adapter, and store the identifications of the serial data bus device in said memory.

33. (Previously Presented) The serial data bus host control driver of claim 31, where the network packets are Ethernet packets.

34-35. (Cancelled)

36. (Currently Amended) An Internet gateway, comprising:  
a port for connecting to the Internet; and

a serial data bus remote host control driver, said serial data bus remote host control driver

comprising including:

- (a) a port for connecting to a local network, said remote host control driver configured to communicate with one or more serial data bus device adapters via said port over the network, each of said one or more serial data bus device adapters having a discrete network address;
- (b) a local network protocol stack, said protocol stack for encapsulating serial data bus packets in local network packets and for decapsulating serial data bus packets from network packets;
- (c) a polling routine configured to poll each of possible device adapters connected to the network in accordance with a candidate list, and create a master list of only the serial data bus device adapters which responded to the polling; and
- (d) a memory for storing the master list, the master list containing the discrete network address of each of said device adapters which responded to the polling and an identifier of each serial data bus device connected via the corresponding serial data bus device adapter to the remote host control driver.

37. (Previously Presented) The Internet gateway of claim 36, where the local network is an Ethernet.

38. (Previously Presented) The Internet gateway of claim 36, further comprising a processor configured to receive unencapsulated serial data bus packets from the protocol stack.

39. (Previously Presented) The Internet gateway of claim 38, further comprising a means for connecting to a local video monitor.
40. (Previously Presented) The Internet gateway of claim 38, further comprising a means for connecting to a local telephone.
41. (Previously Presented) The Internet gateway of claim 38, further comprising a means for connecting to a public television cable.
42. (Previously Presented) The Internet gateway of claim 38, further comprising a means for connecting to a public telephone network.
43. (Currently Amended) A universal serial bus (USB) remote host control driver, comprising:  
means for connecting to a network, said remote host control driver configured to  
communicate with one or more USB device adapters via said means for connecting over  
the network, each of said one or more USB device adapters having a discrete network  
address;  
means for encapsulating USB packets in network packets and for decapsulating USB packets  
from network packets;  
means for polling each of possible USB device adapters connected to the network in  
accordance with a candidate list, and create a master list of only the USB device  
adapters which responded to the polling; and  
means for storing the master list, the mast list containing the discrete network address of  
each of said USB device adapters which responded to the polling and an identifier of

each USB device connected via the corresponding USB device adapter to the remote host control\_driver.

44. (Cancelled)

45. (Currently Amended) An Internet gateway, comprising:

means for connecting to the Internet; and

a universal serial bus (USB) remote host control driver, said USB remote host control driver comprising including:

- (a) means for connecting to a network, said remote host control driver configured to communicate with one or more USB device adapters via said means for connecting over the network, each of said one or more USB device adapters having a discrete network address;
- (b) means for encapsulating USB packets in network packets and for decapsulating USB packets from network packets;
- (c) means for polling each of possible USB device adapters connected to the network in accordance with a candidate list, and create a master list of only the USB device adapters which responded to the polling; and
- (d) means for storing the master list, the master list containing the discrete network address of each of said USB device adapters which responded to the polling and an identifier of each USB device connected via the corresponding USB device adapter to the remote host control driver.

46. (Currently Amended) A serial data bus remote host control driver, comprising:

means for connecting to a network, said remote host control driver configured to communicate with one or more serial data bus device adapters via said means for connecting over the network, each of said one or more serial data bus device adapters having a discrete network address;

means for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets;

means for polling each of possible device adapters connected to the network in accordance with a candidate list, and create a master list of only the serial data bus device adapters which responded to the polling; and

means for storing the master list, the ~~master list~~ master containing the discrete network address of each of said device adapters which responded to the polling and an identifier of each serial data bus device connected via the corresponding serial data bus device adapter to the remote host control driver.

47. (Cancelled)

48. (Currently Amended) An Internet gateway, comprising:

means for connecting to the Internet; and

a serial data bus remote host control driver, said serial data bus remote host control driver comprising including:

(a) means for connecting to a network, said remote host control driver configured to communicate with one or more serial data bus device adapters via said means for connecting over the network, each of said one or more serial data bus device adapters having a discrete network address;

- (b) means for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets;
- (c) means for polling each of possible device adapters connected to the network in accordance with a candidate list, and create a master list of only the serial data bus device adapters which responded to the polling; and
- (d) means for storing the master list, the ~~master list~~ master containing the discrete network address of each of said device adapters which responded to the polling and an identifier of each serial data bus device connected via the corresponding serial data bus device adapter to the remote host control driver.

49. (Currently Amended) The Internet gateway of claim 6, wherein said polling routine is further configured to contact each of said device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each device adapter, and store the identifications of the USB devices in said memory.

50. (Currently Amended) The Internet gateway of claim 36, wherein said polling routine is further configured to contact each of said device adapters which responded to the polling in accordance with the master list, identify each of said serial data bus devices connected to each device adapter, and store the identifications of the serial data bus devices in said memory.

51. (Currently Amended) The USB remote host control driver of claim 43, wherein said means for polling is further configured to contact each of said device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected

to each USB device adapter, and store the identifications of the USB devices in said means for storing.

52. (Currently Amended) The Internet gateway of claim 45, wherein said means for polling is further configured to contact each of said USB device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each USB device adapter, and storing the identifications of the USB devices in said means for storing.

53. (Currently Amended) The serial data bus remote host control driver of claim 46, wherein said means for polling is further configured to contact each of said device adapters which responded to the polling in accordance with the master list, identify each of said serial data bus devices connected to each device adapter, and store the identifications of the serial data bus devices in said means for storing.

54. (Currently Amended) The Internet gateway of claim 48, wherein said means for polling is further configured to contact each of said device adapters which responded to the polling in accordance with the master list ~~master list~~, identify each of said serial data bus devices connected to each device adapter, and storing the identifications of the serial data bus devices in said means for storing.

55. (Currently Amended) A system comprising:  
a universal serial bus (USB) remote host control driver; and

at least one universal serial bus (USB) device adapter, said USB remote host control driver being connected to at least one USB device via said at least one USB device adapter over a network,

wherein said USB remote host control driver comprising including:

- (a) a port for connecting to the network, said remote host control driver configured to communicate with said at least one USB device adapter via said port over the network, each USB device adapter having a discrete network address;
- (b) a network protocol stack, said protocol stack for encapsulating USB packets in network packets and for decapsulating USB packets from network packets;
- (c) a polling routine configured to poll each of possible USB device adapters connected to the network in accordance with a candidate list, and create a master list of only the USB device adapters which responded to the polling; and
- (d) a memory for storing the master list, the master list containing the discrete network address of each of said USB device adapters which responded to the polling and an identifier of each USB device connected via the corresponding USB device adapter to the remote host control driver,

and wherein each of said one or more USB device adapters comprises including:

- (a) a memory for storing an assigned network address;
- (b) a network protocol stack, said protocol stack for encapsulating USB packets in network packets and for decapsulating USB packets from the network packets; and
- (c) a bridging task for receiving USB packets from one or more USB devices coupled to the corresponding USB device adapters and for passing USB device addressing information and said USB packets to said network protocol stack.



56. (Currently Amended) The system of claim 55, wherein said polling routine is further configured to contact each of said USB device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each USB device adapter, and store the identifications of the USB devices in said memory.
57. (Previously Presented) The system of claim 55, wherein the network packets are Ethernet packets.
58. (Currently Amended) A system comprising:
- a serial data bus remote host control driver; and
  - at ~~least~~ least one serial data bus device adapter, said serial data bus remote host control driver connected to at least one serial data bus device via said at least one said serial data bus device adapter over a network,
- wherein said serial data bus remote host control driver comprising ~~including~~:
- (a) a port for connecting to the network, said remote host control driver configured to communicate with at least one serial data bus device adapter via said port over the network, each of said at least one serial data bus device adapter having a discrete network address;
  - (b) a network protocol stack, said protocol stack for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets;
  - (c) a polling routine configured to poll each of possible device adapters connected to the network in accordance with a candidate list, and create a master list of only the serial data bus device adapters which responded to the polling; and

(d) a memory for storing the master list, the master list containing the discrete network address of each of said device adapters and an identifier of each serial data bus device connected via the corresponding serial data bus device adapter to the remote host control driver,

and wherein each of said at least one serial data bus device adapters comprises including:

- (a) a memory for storing an assigned network address;
- (b) a network protocol stack, said protocol stack for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from the network packets;  
and
- (c) a bridging task for receiving serial data bus packets from one or more serial data bus devices coupled to the corresponding device adapters and for passing serial data bus device addressing information and said serial data bus packets to said network protocol stack.

59. (Currently Amended) The system of claim 58, wherein said polling routine is further configured to contact each of said device adapters which responded to the polling in accordance with the master list, identify each of said serial data bus devices connected to each device adapter, and store the identifications of the serial data bus devices in said memory.

60. (Previously Presented) The system of claim 58, where the network packets are Ethernet packets.

61. (Currently Amended) A system comprising:

a universal serial bus (USB) remote host control driver; and

at ~~least~~ least one of USB device adapters, said USB remote host control driver connected to the corresponding USB devices via said at least one ~~said~~ USB device adapter over a network,

wherein said USB remote host control driver comprises ~~including~~:

- (a) means for connecting to the network, said remote host control driver configured to communicate with said at least one USB device adapter via said means over the network, each of said at least one USB device adapters having a discrete network address;
- (b) means for encapsulating USB packets in network packets and for decapsulating USB packets from network packets;
- (c) means for polling each of possible USB device adapters connected to the network in accordance with a candidate list, and create a master list of only the USB device adapters which responded to the polling; and
- (d) means for storing the master list, the master list containing the discrete network address of each of said USB device adapters which responded to the polling and an identifier of each USB device connected via the corresponding USB device adapter to the remote host control driver,

and wherein each of said USB device adapters comprises ~~having~~:

- (a) means for storing an assigned network address;
- (b) means for encapsulating USB packets in network packets and for decapsulating USB packets from the network packets; and

- (c) means for receiving USB packets from one or more USB devices coupled to the corresponding USB device adapters and for passing USB device addressing information and said USB packets to said means for encapsulating.

62. (Currently Amended) The system of claim 61, wherein said means for polling is further configured to contact each of said USB device adapters which responded to the polling in accordance with the master list, identify each of said USB devices connected to each USB device adapter, and store the identifications of the USB devices in said means for storing.

63. (Currently Amended) A system comprising:

a serial data bus remote host control driver; and

at ~~least~~ least one serial data bus device adapter, said serial data bus remote host control driver connected to at least one serial data bus device via at least one serial data bus device adapter over a network,

wherein said serial data bus remote host control driver comprising including:

- (a) means for connecting to the network, said remote host control driver configured to communicate with said at least one serial data bus device adapter via said means over the network, each of said at least one serial data bus device adapters having a discrete network address;
- (b) means for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets;
- (c) means for polling each of possible serial data bus device adapters connected to the network in accordance with a candidate list, and create a master list of only the serial data bus device adapters which responded to the polling; and

(d) means for storing the master list, the master list containing the discrete network address of each of said at least one serial data bus device adapters-and an identifier of each serial data bus device connected via the corresponding serial data bus device adapter to the remote host control driver,

and wherein each of said at least one serial data bus device adapters comprising ~~including~~:

(a) means for storing an assigned network address;

(b) means for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from the network packets; and

(c) means for receiving serial data bus packets from one or more serial data bus devices coupled to the corresponding device adapters and for passing serial data bus device addressing information and said serial data bus packets to said means for encapsulating.

64. (Currently Amended) The system of claim 63, wherein said means for polling is further configured to contact each of said device adapters which responded to the polling in accordance with the master list, identify each of said serial data bus devices connected to each device adapter, and store the identifications of the serial data bus devices in said means for storing.

65. (New) The USB remote host control driver of claim 1 wherein said USB remote host control driver is further configured to configure said candidate list manually.

66. (New) The USB remote host control driver of claim 1, further comprising a plug-and-play routine to configure said candidate list.

67. (New) The serial data bus remote host control driver of claim 31 wherein said serial data bus remote host control driver is further configured to configure said candidate list manually.
68. (New) The serial data bus remote host control driver of claim 31, further comprising a plug-and-play routine to configure said candidate list.
69. (New) The Internet gateway of claim 6 wherein said USB remote host control driver is further configured to configure said candidate list manually.
70. (New) The Internet gateway of claim 6, further comprising a plug-and-play routine to configure said candidate list.
71. (New) The Internet gateway of claim 36 wherein said serial data bus remote host control driver is further configured to configure said candidate list manually.
72. (New) The Internet gateway of claim 36, further comprising a plug-and-play routine to configure said candidate list.
73. (New) The system of claim 55 wherein said USB remote host control driver is further configured to configure said candidate list manually.
74. (New) The system of claim 55, further comprising a plug-and-play routine to configure said candidate list.

75. (New) The system of claim 58 wherein said serial data bus remote host control driver is further configured to configure said candidate list manually.
76. (New) The of claim 58, further comprising a plug-and-play routine to configure said candidate list.